

Patent Abstracts of Japan

PUBLICATION NUMBER : 2000288356
PUBLICATION DATE : 17-10-00

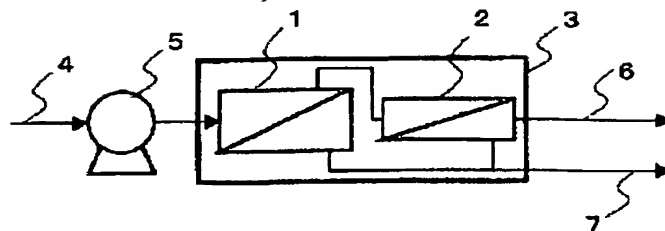
APPLICATION DATE : 02-02-00
APPLICATION NUMBER : 2000024971

APPLICANT : TORAY IND INC;

INVENTOR : TANIGUCHI MASAhide;

INT.CL. : B01D 61/08 B01D 61/02 C02F 1/44

TITLE : REVERSE OSMOSIS MEMBRANE
SEPARATION APPARATUS AND
WATER PRODUCING METHOD



ABSTRACT : PROBLEM TO BE SOLVED: To improve the linear velocity of fluid flowing in membrane surfaces of reverse osmosis membrane elements to suppress concentration polarization and making a reverse osmosis membrane separation apparatus sufficiently exhibit capability of the reverse osmosis membrane elements by installing a reverse osmosis membrane module in which a plurality of reverse osmosis membrane elements are connected in series and specifying the cross-section surface area of a raw water flow route of the reverse osmosis membrane elements.

SOLUTION: The reverse osmosis membrane part is composed of a module 3 to which a plurality of reverse osmosis membrane elements are loaded. In this case, the reverse osmosis membrane element 1 in the upstream side is made to have a wider cross-section surface area of a raw water flow route than the reverse osmosis membrane element 12 in the downstream side. The raw water passed through a raw water intake route 4 and pressurized by a pressurizing pump 5 and led to the module 3. Consequently, the raw water is subjected to reverse osmosis membrane treatment by the reverse osmosis membrane element 1 and the passed water is taken out through a passed water discharge route 7. The concentrated water which is not passed through the reverse osmosis membrane element 1 is led to the reverse osmosis membrane element 2 and treated by the element 2 and the passed water is discharged through the passed water discharge route 7 and concentrated water is discharged through a concentrated water discharge route 6.

COPYRIGHT: (C)2000,JPO